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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,829	03/22/2004	Jian Bai	10980322-4	4240
22878 7590 08/20/2007 AGILENT TECHNOLOGIES INC. INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT. MS BLDG. E P.O. BOX 7599 LOVELAND, CO 80537			EXAMINER WELLS, NIKITA	
			ART UNIT 2881	PAPER NUMBER
			MAIL DATE 08/20/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/806,829	<b>Applicant(s)</b> BAI ET AL.	
	<b>Examiner</b> Nikita Wells	<b>Art Unit</b> 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on "Resp. to Notice to Comply" rec11/07/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34-80 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-80 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/28/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Interference***

1. The Applicants filed a "Response to Notice to Comply with Rule 37 C.F.R. §41.202 (a)(1)-(6)" on November 7, 2005, Pursuant to the provisions of 37 C.F.R. §41.202 (a), where the Applicants suggest that the Office set up an Interference between the present application 10/806,829 and US Patent No. 6,683,300 B2, filed on September 17, 2001. The Applicant canceled claims 1-33 and added claims 34-80 in the "Preliminary Amendment" received March 22, 2004.
2. Upon review and consideration of the claims in view of the prior art, it is determined that an interference will not be suggested at this time since examination is not yet completed. See 37 C.F.R. §41.102.

The newly found prior art is exemplified by Wang et al. (5,869,832) and was filed on October 14, 1997 (the 102(e) rejection); and that of Franzen et al. (5,663,561) was filed on March 28, 1996 (the 103(a) rejection). The Applicant's priority date claims benefit of June 12, 1998.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 34-39, 41-52, 54-79 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al. (5,869,832).

With respect to claims 34-36, 41, 43-47, 49, 51, 56-59, 64-67, 69-70, 73, and 77, Wang et al. disclose (col. 1, lines 54-65; col.2, lines 29-56; and col.2, line 64 to col.3, line 12) a method, system, and apparatus for mass spectroscopic analysis of an analyte solution, comprising: irradiating a liquid volume of said analyte solution, without additional matrix added to said analyte solution, matrix with a light beam to desorb solution-specific ions into a surrounding gas to produce gas-phase ions; transferring said gas-phase ions to a mass analyzer; and mass-analyzing said gas-phase ions by said mass analyzer.

With respect to claims 37-38, 68, and 79, Wang et al. disclose (col. 2, lines 42-49; and col. 4, lines 1-5) a method and apparatus for mass spectroscopic analysis, wherein the step of irradiating comprises producing said gas-phase ions at or about atmospheric pressures.

With respect to claims 48 and 76, Wang et al. disclose (col. 1, lines 54-65; and col.2, lines 16-28) a method for mass spectroscopic analysis, wherein said step of mass-analyzing comprises: analyzing liquid solutions of organic and inorganic compounds including peptides, proteins, nucleic acids, polymers and other compounds of biological significance.

With respect to claims 39, 50, 52, 54, 60-63, and 71, Wang et al. disclose (col. 6, line 51 to col. 7, line 2) a method and apparatus for mass spectroscopic analysis, providing means for depositing the analyte solution on a surface, wherein said surface may comprise a metal surface and a membrane.

With respect to claim 42, 55, and 72, Wang et al. disclose (col. 6, lines 51-54; and col. 9, line 66 to col.10, line 4) a method and an apparatus for mass spectroscopic analysis, wherein the analyte solution is used in an electrophoretic process.

With respect to claim 74-75, Wang et al. disclose (col. 2, line 64 to col. 3, line 11) an apparatus for mass spectroscopic analysis, wherein the mass analyzer comprises: at least one of an inlet orifice attached to an inlet port of a mass spectrometer and a capillary tube attached to said inlet port.

With respect to claim 78, Wang et al. disclose (col. 9, line 66 to col.10, line 4) a method and apparatus for mass spectroscopic analysis, further comprising a high-performance liquid chromatograph or a CE.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 40, 53, and 80, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (5,869,832) in view of Franzen et al. (5,663,561).

With respect to claims 40, 53, and 80, Wang et al. disclose (as shown above in paragraph #4) a method, system, and apparatus for mass spectroscopic analysis of an analyte solution, but fail to specifically disclose the step of depositing the analyte solution when the analyte solution is matrix-free.

However, Franzen et al. disclose (Abstract; col. 1, lines 51-56; col. 2, lines 32-38 and lines 45-64) a method and apparatus for the ionization of heavy molecules at atmospheric pressure specifying that the matrix material decomposes under laser photons (in MALDI operation) into small gas molecules which can blast the analyte molecules into the surrounding gas (col.2, lines 45-64). Franzen states that the matrix material has to be selected such that the transfer of heat to the analyte molecules is minimal. He further mentions (col. 3, lines 31-44) that "...at atmospheric pressure the released molecules of the decomposed matrix material are not needed to ionize the macromolecules. The selection of matrix molecules is solely dependent upon their ability to release the large molecules,". Therefore, it would have been obvious to a person of ordinary skill in the art to use a matrix-free analyte solution if one was to release smaller size molecules using a matrix-free material.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to recognize and substitute the method and apparatus of the ionization of heavy molecules of Franzen et al. into the a method and apparatus for mass spectroscopic analysis of an analyte solution of Wang et al. in order to optimize the ionization of large molecules at atmospheric pressure for efficient delivery to a mass spectrometer for mass analysis.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikita Wells whose telephone number is (571) 272-2484. The examiner can normally be reached on 8:30 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be

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reached on (571) 272-2293. The central fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nikita Wells, Primary Examiner,

Art Unit 2881

July 18, 2007



JANICE A. FALCONE  
DIRECTOR  
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